

SULFURYL FLUORIDE RESEARCH AND DEVELOPMENT UPDATE

Brian M. Schneider*, Dow AgroSciences LLC, Indianapolis, IN
Robert E. Williams, Dow AgroSciences LLC, Moorpark, CA

Vikane* gas fumigant (sulfuryl fluoride) has been used to fumigate structures and furnishings for over 35 years primarily to control drywood termites (Kalotermitidae) in the United States. Sulfuryl fluoride has proven to be an ideal fumigant for structural fumigation due to its low boiling point, excellent penetration qualities, low reactivity potential, and rapid aeration.

For several years, Dow AgroSciences has been cooperating with commodity associations, government research agencies, and university researchers to conduct laboratory efficacy trials to evaluate the potential of sulfuryl fluoride to control: stored product pests, log infesting beetles and fungi, and quarantine pests of food commodities. In addition, trials are ongoing to confirm that sulfuryl fluoride does not affect taste and quality of dried fruits and tree nuts, and to characterize the phytotoxicity of sulfuryl fluoride to perishables. Field trials are being conducted in a variety of food processing mills to improve fumigation efficiency and stewardship for this potential new use pattern.

Probe residue trials have been initiated for dried fruits and tree nuts with further testing dependent on the outcome of these trials and interest of dried fruit and tree nut commodity groups. Discussions with the Environmental Protection Agency (EPA) are ongoing to define registration submission requirements.

In summary, Dow AgroSciences, in cooperation with interested commodity groups and researchers, is assessing the technical and commercial viability of sulfuryl fluoride for use in a variety of markets which may have few effective pest control options in the future. Future development focus will be determined by the level of interest on the part of commodity groups, availability of funding, technical challenges, stewardship considerations and the potential for sulfuryl fluoride to fit into these markets.

*Trademark of Dow AgroSciences LLC